

Österreichische Akademie der Wissenschaften  
Mathematisch-Naturwissenschaftliche Klasse und  
Gesellschaft Österreichischer Chemiker

---

# ***Monatshefte für Chemie***

## ***Chemical Monthly***

---

Herausgeber-Kollegium/Editorial Board

E. Hengge, Graz  
A. Neckel, Wien  
K. Schlögl, Wien (Managing Editor)  
U. Schmidt, Stuttgart  
H. Tuppy, Wien

**Vol. 115, 1984**

ISSN 0026-9247

**Springer-Verlag Wien New York**



---

# **Monatshefte für Chemie**

## **Chemical Monthly**

---

### **Fachbeirat/Advisory Board**

G. Billek, Hamburg	H. Nowotny, Wien
J. D. Dunitz, Zürich	O. F. Olaj, Wien
E. A. V. Ebsworth, Edinburgh	W. Oppolzer, Genf
H. Falk, Linz	F. Paltauf, Graz
E. O. Fischer, München	W. von Philipsborn, Zürich
H. L. Gruber, Innsbruck	O. E. Polansky, Mülheim/Ruhr
V. Gutmann, Wien	H. Ruis, Wien
G. Hauska, Regensburg	F. Sauter, Wien
E. Hayek, Innsbruck	K. Schaffner, Mülheim/Ruhr
J. F. K. Huber, Wien	G. Schatz, Basel
H. Junek, Graz	H. Schmidbaur, München
O. Kratky, Graz	T. Schönfeld, Wien
F. Kuffner, Wien	P. Schuster, Wien
R. Lacmann, Braunschweig	G. Spittler, Bayreuth
A. MacDiarmid, Philadelphia, Penn.	O. Vogl, Brooklyn, N.Y.
K. Mislow, Princeton, N.J.	U. Wannagat, Braunschweig
A. Müller, Bielefeld	H. Zahn, Aachen
E. Nachbaur, Graz	E. Zbiral, Wien

Redaktionssekretär/Editorial Assistant: O. Hofer, Wien

Alle Rechte, einschließlich das der Übersetzung in fremde Sprachen  
und das der photomechanischen Wiedergabe oder einer sonstigen Vervielfältigung,  
auch in Mikroform, vorbehalten

The exclusive copyright for all languages and countries,  
including the right for photomechanical  
and any other reproductions including microform is transferred to the publisher

© 1984 by Springer-Verlag/Wien

## Autorenverzeichnis/Author Index

- Abdalla S. O.*, s. *El-Agamey A.-G. A.*
- Abd-Elaal F. A.-E.*, *Hussein M. M.*, *Elnagdi M. H.*, *Elgemeie G. E. H.* Studies on 5-aminoisoxazole derivatives: Synthesis of some new fused isoxazoles, 573
- Abdel-Khalek A. A.*, *Elsemongy M. M.* Kinetics of the periodate oxidation of octacyanomolybdate(IV) in ethanol-water solvent mixtures, 1385
- Abou-Elzahab M. M.*, s. *Afsah E. M.*
- Abu-Zuhri A. Z.* Spectrophotometric studies and analytical application of Ce(III) chelates with 1(2-pyridylazo)-2-naphthol (PAN), 57
- Afsah E. M.*, *Abou-Elzahab M. M.*, *Zimaity M. T.*, *Proctor G. R.* Michael and ring expansion reactions of 6-carboethoxy-3,5-diaryl-2-cyclohexen-1-ones, 1065
- Afsah E. M.*, *Hammouda M.*, *Abou-Elzahab M. M.* A study on the double Mannich reaction with 1,3-diphenylacetone, 581
- Afsah E. M.*, *Metwally M. A.*, *Khalifa M. M.* Synthesis of 2,5-bis(piperidino-methyl)piperidine and 1,5-bis(amino-methyl)-3-azabicyclo[3.2.1]octanones, 303
- Ahluwalia S. C.*, s. *Parkash R.*
- Ahluwalia V. K.*, *Gupta R.*, *Rani N.* The reaction of 4-methoxycoumarins with prenyl bromide: Synthesis of 4',4',5'-trimethyl-dihydro-urano-coumarins and 2,2-dimethyl-chromenopyrans, 327
- Ahluwalia V. K.*, *Singh D.*, *Singh R. P.* A convenient synthesis of crotylbenzaldehydes and 2-methylformylchromans 1059
- Ahluwalia V. K.*, *Singh R. P.*, *Tripathi R. P.* A novel synthesis of 4-propyl-2H-1-benzopyran-2-ones, 765
- Akgün E.*, *Pindur U.* Zur Reaktion von Phenazon und lithiiertem Phenazon mit Aryl-Carbonyl-Derivaten, 197
- Akgün E.*, *Pindur U.* Silylenol-ether-Funktionalisierung, 3. Mitt.: Regioselektive Acylierung von Trimethylsilylenolethern mit 2-Alkoxy-1,3-dioxolanen — Synthese von  $\alpha$ - und  $\alpha$ -geschützten Dicarbonylverbindungen, 587
- Albertsson A. C.*, s. *Li S.*
- Amirtha N.*, *Viswanathan S.*, *Ganesan R.* Kinetics and Mechanism of the addition of iodine monochloride to some alkenes in nitrobenzene solvent. Effect of polarity of the solvent, 35
- Arnaudov M.*, s. *Dimitrov V.*
- Bachmair A.*, *Ruis H.* Construction of a yeast plasmid cloning vector with high stability in *Saccharomyces cerevisiae* strains deficient in 2  $\mu$ m DNA, 1229
- Bachowska B.*, *Śliwa W.* 1,3-Dipolar cycloaddition reactions of benzo[h]-naphthyridinium N-phenacylides, 1101
- Baeza J.*, *Freer J.*, *Palma G.* Stereoselective oxidative addition of benzene-thiol to indene in the presence of ovalbumin (Short commun.), 1369

- Basset W. Jr., s. Li S.
- Beismann K., s. Böhmer V.
- Bhat G. A., Dickson D. E. Synthesis of 2,4,5-trihydroxyphenylpropylamine (Short commun.), 113
- Blaha H., s. Quint R.
- Blaschette A., Safari H. Reaktion von primären Alkylhydroperoxiden mit Amidoschwefelsäurechlorid: Alkyl-(amidosulfonyl)peroxide. Über Peroxoverbindungen, 18. Mitt., 875
- Böck M., s. Fischer E. O.
- Böhlig H., s. Hahn E.
- Böhmer V., Stotz D., Beismann K., Vogt W. Kinetik der Bromierung von Phenolen und phenolischen Mehrkernverbindungen, 5. Mitt.: Dreikernverbindungen mit dem reaktiven Baustein in der Mitte, 65
- Boller H., s. Quint R.
- Borrás J., s. Perelló L.
- Brunner H., Miehl W. Enantioselektive Cyclopropanierung von 1,1-Diphenylethylen und Diazoessigester mit Kupfer-Katalysatoren, 1237
- Brzostowska M., Gawroński J. Factors influencing asymmetric induction in the addition of thioacids to 2-cyclohexenone (Short commun.), 1373
- Buchbauer G., Fischlmayr A., Haslinger E., Robien W., Völlenkle H., Wassmann C. 2D-NMR: Part VI. 2D-IN-ADEQUATE spectral analysis and crystal structure of tricyclo[7.3.1.0<sup>2,7</sup>]-tridecane, 739
- Buchbauer G., Freudenreich S., Hampf C., Haslinger E., Robien W. Zur Reaktion von Camphen mit unterchloriger Säure. Synthesen in der Isocamphanreihe, 23. Mitt., 509
- Burghardt A., Kulicki Z. The initiation properties of 2-cyano-2-propyl hydroperoxide in oxidation processes, 87
- Casado J., Castro A., Leis J. R., Mosquera M., Pena M. E. Kinetic studies on the formation of *N*-nitroso compounds, X. The nitrosation of *N*-methylacetamide and its differences with respect to the nitrosation of amines, 1047
- Casado J., Castro A., Mosquera M., Rodríguez Prieto M. F., Tato J. V. Kinetic studies on the formation of *N*-nitroso compounds, IX. Nitrosyl acetate as a nitrosating agent, 669
- Casado J., Domenech J., Gallardo I. Solvent effects on the polarographic behaviour of halobenzenes in aprotic media, 1143
- Casado J., Leis J. R., Mosquera M., Paz L. C., Pena M. E. Kinetic studies on the formation of *N*-nitroso compounds. VIII. Evidence of a medium effect of acetic acid/acetate ion buffer upon rates of nitrosation, 155
- Casalbore G., Giro G., Mastragostino M. A photochemical and electrochemical investigation on the system Br<sub>2</sub>-toluene in acetonitrile, 659
- Castro A., s. Casado J.
- Cea-Olivares R., Rodríguez I., Soriano-García M., Toscano R. A., Córdoba M. Synthesis and crystal structure of 4,4'-(1,2-ethanediylidimino)bis(1,1,1-trichloro-3-penten-2-one), 485
- Chaturvedi G. K., s. Kumar R.
- Chetkarov M. L., Hatour F. D., Kolev D. N. A kinetic method for the direct determination of cellobiose hydrolysis by  $\beta$ -glucosidases, 1321
- Chetkarov M. L., Kolev D. N. The Michaelis-Menten equation in the case of

- enzymecatalyzed hydrolysis of linear homopolymer substrates with different degrees of polymerization, 1405
- Claus P. K., Jüger E. Konformations-Gleichgewichte von 1,3-Oxathian-3-imiden, 1199
- Córdoba M., s. Cea-Olivares R.
- Corduneanu I., s. Uglea C.
- Csuk R., Müller N., Weidmann H. Vollständige  $^{13}\text{C}$ -NMR-Zuordnung von gluco- und idokonfigurierten 1,2-O-Alkyliden-furanurono-6,3-lactonen durch  $2\text{D-}^1\text{H-}^{13}\text{C}$ -korrelierte NMR-Spektroskopie, 93
- Czakis-Sulikowska D. M., Radwańska-Docekalaska J., Sójka G. 4,4'-Dipyridyl complexes of rare-earth thiocyanates, 961
- Daroca A., Mercé R., Ribó J. M., Trull F., Vallès A. Reactivity of pyrrole pigments. Part 5: Electrophilic substitution—nitration and bromination—of some pyromethenones and 5-arylmethylene-3,4-dimethyl-3-pyrrolin-2-ones, 357
- Davidson J. S. The preparation of 5-(2-aminophenyl)-1,3,4-oxadiazole-2-(3*H*)-one and its rearrangement to 3-amino-2,4(1*H*, 3*H*)-quinazoline-dione, 565
- Devi T. P., Kalidas C., Venkatachalam C. S. Electrochemical behaviour of quinazoline in amphiprotic media, 1279
- Dickson D. E., s. Bhat G. A.
- Dietz F., s. Fabian J.
- Dimitriev Y., s. Dimitrov V.
- Dimitrov V., Arnaudov M., Dimitriev Y. IR-Spectral study of the effect of  $\text{WO}_3$  on the structures of tellurite glasses, 987
- Domenech J., s. Casado J.
- Döring G., s. Kuhl P.
- Edinger J., Falk H., Jungwirth W., Müller N., Zruncik U. Zur Chemie der Pyrrolpigmente, 56. Mitt.: Phytochrommodellstudien. Die induzierten und natürlichen chiroptischen Eigenschaften von Bilatrienen-abc und 2,3-Dihydrobilatrienen-abc, 1081
- Edinger J., Falk H., Müller N. Zur Chemie der Pyrrolpigmente, 54. Mitt.: Phytochrommodellstudien. Ein 2,3-Dihydrobilatrien-abc-3-Cholesteryl-derivat, 837
- Effenberger H. Verfeinerung der Kristallstruktur von Kupfer(II)-hydroxichlorid,  $\text{Cu}(\text{OH})\text{Cl}$ , 725
- Effenberger H., Langhof H. Die Kristallstruktur von Dikalium-trikobalt(II)-dihydroxid-trisulfat-dihydrat,  $\text{K}_2\text{Co}_3(\text{OH})_2(\text{SO}_4)_3 \cdot 2 \text{H}_2\text{O}$ , 165
- El-Agamey A.-G. A., Abdalla S. O., Elmoghayar M. R. H.  $\alpha,\beta$ -Unsaturated nitriles in heterocyclic synthesis. Synthesis of some new pyrazolo[1,5-*a*]pyrimidine derivatives, 1413
- El-Barbary A. A. Reaction of esters, ortho esters, acetals, thioacetals and epoxides with 2,4-bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulfide (Lawesson reagent), 769
- El-Basil S., Jashari G., Knop J. V., Trinajstić N. Note on the application of the reduced graph model in conjunction with search trees to the enumeration of Kekulé structures, 1299
- Elgemeie G. E. H., s. Abd-Elal F. A.-E.
- Elmoghayar M. R. H., s. El-Agamey A.-G. A.
- Elnagdi M. H., s. Abd-Elal F. A.-E.

- Elsemongy M. M., s. Abdel-Khalek A. A.
- Erndt A., Kostuch A., Para A., Fiedorowicz M. Photochemistry of purine systems. Part III. Photoreactions of theophylline with alcohols in the presence of aliphatic ketones, 383
- Eyer M., Schlögl K., Widhalm M. Biphenyl-tricarbonylchrom-Komplexe, 9. Mitt.: Synthesen, chromatographische Enantiomerentrennung, Circular-dichroismus und Chiralität von mono- und bis-(Tricarbonylchrom)-Komplexen di- und tetrasubstituierter sowie überbrückter Biphenyle, 1429
- Fabian W. Zur Interpretation des Absorptionsverhaltens isomerer Diamino-methoxy-pyridincarbonitrile, 1421
- Fabian J., Mehlhorn A., Dietz F., Tyutyul'kov N. What is the basic chromophore of a dye?, 21
- Falk H., Jungwirth W., Müller N. Zum Phänomen der induzierten optischen Aktivität: Der induzierte Circular-dichroismus in Mischungsreihen, 455
- Falk H., Kapl G., Müller N., Zrunek U. Beiträge zur Chemie der Pyrrolpigmente, LVIII. Phytochrommodellstudien: Konformationsanalytische Untersuchungen an 2,3-Dihydrobilatrien-abc-Derivaten, 1443
- Falk H., Müller N., Purschitzky A. Zum Einfluß externer Punktladungen auf das Absorptionsspektrum von Gallenfarbstoffen des Bilatrien-abc-typs (Kurze Mitt.), 121
- Falk H., Müller N., Purschitzky A. Zum Einfluß externer Punktladungen auf das Absorptionsspektrum von Gallenfarbstoffen des Bilatrien-abc-typs (Erratum), 873
- Falk H., Wolschann P., Zrunek U. Beiträge zur Chemie der Pyrrolpigmente, 53. Mitt.: Phytochrommodellstudien: Das Säure-Basen-Gleichgewicht diastereomerer 2,3-Dihydrobilatriene-abc, 243
- Falk H., Zrunek U. Beiträge zur Chemie der Pyrrolpigmente, 52. Mitt.: Phytochrommodellstudien: Eine reversible Addition an  $\Delta^4$  von 2,3-Dihydrobilatrienen-abc, 101
- Falk H., Zrunek U. Zur Chemie von Pyrrolpigmenten, 55. Mitt.: Phytochrommodellstudien: Zum Einfluß nicht konjugierter Ladungen auf den 2,3-Dihydrobilatrien-abc-Chromophor, 1071
- Falk H., s. Edinger J.
- Fiedorowicz M., s. Erndt A.
- Fischer E. O., Böck M. Übergangsmetall-Carben-Komplexe, CXXXVII. Darstellung zweikerniger Gold(I)-Bis-carben-Komplexe durch Carbenübertragungen von Wolfram auf Gold, 1159
- Fischlmayr A., s. Buchbauer G.
- Fluch A., s. Gamsjäger H.
- Foks H., s. Pilarski B.
- Freer J., s. Baeza J.
- Freudenreich S., s. Buchbauer G.
- Fruwert J., s. Hahn E.
- Gakhar H. K., Sachdev P., Gupta S. B. Substituted benzimidazo[2,1-h]pteridine-2,4-diones, 757
- Gallardo I., s. Casado J.
- Gamsjäger H., Fluch A., Swinehart J. H. The effect of potential aqueous pollutants on the solubility of  $Pb^{+2}$  in cerussite—calcite phases, 251

- Gamsjäger N., s. Gruber H.
- Ganesan R., s. Amirtha N.
- Gawroński J., s. Brzostowska M.
- Ghozlan S. A. S., s. Zayed E. M.
- Gierulski D., s. Malyszko J.
- Giro G., s. Casalbone G.
- Gödl S., Trathnigg B., Junek H. Alkoholyse aromatischer Carbonsäureester, 1185
- Golob K., s. Trathnigg B.
- Gordo F. J., s. Perelló L.
- Gordo J. C., s. Perelló L.
- Graovac A., Gutman I., Polansky O. E. Topological effect on MO energies, IV. The total  $\pi$ -electron energy of S- and T-isomers, 1
- Greger H., s. Hofer O.
- Grimmer A.-R., Lampe F. v., Mägi M., Lippmaa E. Hochauflösende  $^{29}\text{Si}$ -Festkörper-NMR-Spektroskopie: Einfluß des Si—O—Si-Bindungswinkels auf die isotrope chemische Verschiebung von t- und h- $\text{Y}_2\text{Si}_2\text{O}_7$  (Kurze Mitt.), 561
- Grosse I., s. Jacobasch H. J.
- Gruber H., Gamsjäger N. Hydrophile Polymergele mit reaktiven Gruppen, 5. Mitt.: Chelatharze mit phosphorhaltigen Ankergruppen auf Basis von Saccharosemethacrylaten, 1329
- Grzejdziak A., s. Ignaczak M.
- Gumiński C., s. Sasim D.
- Gupta A., s. Li S., Saxena R. S.
- Gupta K., s. Gupta K. C.
- Gupta K. C., Misra V. D., Gupta K. Kinetics and mechanism of oxidation of quinol by mercuric nitrate in  $\text{AcOH-H}_2\text{O-HNO}_3$  medium, 405
- Gupta K. C., s. Saxena R. S.
- Gupta R., s. Ahluwalia V. K.
- Gupta S. B., s. Gakhar H. K.
- Gutman I., s. Graovac A.
- Gutmann V., Resch G., Kratz R., Schauer H. Thermisch stimulierte Lumineszenzerscheinungen II: Einfluß der Vorbehandlung auf das Verhalten verschiedener Metallpulver, 551
- Gutmann V., s. Linert W.
- Habib N. S., Kappe T. Synthesis of 2H-pyrano[2,3-d]pyrimidine derivatives, 1459
- Hahn E., Fruwert J., Böhlig H. Vergleichbare Kraftfelder vieratomiger Formylverbindungen, 935
- Hahn H., Toifl E., Meindl W., Utvary K. Fluordiazadiphosphetidine, 13. Mitt.: Die Reaktion von 2,2,2,4,4,4-Hexafluor-1,3-dimethyl-1,3,2 $\lambda^5$ ,4 $\lambda^5$ -diazadiphosphetidin mit Alkoholen, 881
- Hahn H., Utvary K. Fluordiazadiphosphetidine. Synthese von neuen 2,2,4,4-Tetrafluor-2,4-dimethoxy-1,3,2 $\lambda^5$ ,4 $\lambda^5$ -diazadiphosphetiden, 899
- Hammouda M., s. Afsah E. M.
- Hampel C., s. Buchbauer G.
- Haslinger E., Kalchauer H., Robien W., Steindl H. 2D-NMR of natural products, part V. Structure elucidation and complete  $^1\text{H}$ - and  $^{13}\text{C}$ -assignment of resin acid derivatives, 597

- Haslinger E., Kalchhauser H., Wolschann P. *cis-trans*-Isomerisation of the proline-peptide-bond in a cyclic tetrapeptide related to chlamydocin, 779
- Haslinger E., Reithmaier M., Robien W., Wolschann P. <sup>15</sup>N-NMR-studies on the neutralization reaction of arylidene dimethyl barbituric acids. Organic Lewis acids 38, 375
- Haslinger E., Schlederer M., Robien W., Wolschann P. Hydrogen bonding and tautomeric equilibria of complexes of pyridine with various proton donors. A nitrogen-15 nuclear magnetic resonance study, 1345
- Haslinger E., s. Buchbauer G.
- Hassler K. Modellrechnungen zu den Schwingungsspektren von Tris(trimethylsilyl)phosphan und Tris(triphenylsilyl)phosphan, 713
- Hatour F. D., s. Chetkarov M. L.
- Hausmann B., s. Lorbeer E.
- Heinisch G., Waglechner R. Allylumlagerung bei S<sub>N</sub>-Reaktionen von 4-( $\alpha$ -Chloralkyl)pyridazinen. 22. Mitt. über Pyridazine, 1171
- Hengge E., s. Schmölzer H.
- Henning A., s. Knittel D.
- Hermel G., s. Jacobasch H. J.
- Hofer O., Greger H. Naturally occurring-sesquiterpene-coumarin ethers, VI. New sesquiterpene-isofraxidin ethers from *Achillea depressa*, 477
- Hofer O., Widhalm M., Greger H. Circular dichroism of sesquiterpene-umbelliferone ethers and structure elucidation of a new derivative isolated from the gum resin "Asa Foetida", 1207
- Hönel M., Vierhapper F. W. Selectivity of hydrogenations. Part 4. 6- and 8-substituted quinaldines. Yield of tetrahydroderivatives and basicities of quinolines, 1219
- Humer K., s. Ongania K.-H.
- Hussein M. M., s. Abd-Elaal F. A.-E.
- Ibrahim A.-A. H., s. Zayed E. M.
- Ignaczak M., Grzejdziak A. Potentiometric determination of equilibrium constants for Ag(I)-pyridine, Ag(I)-2,2'-bipyridine, and Ag(I)-1,10-phenanthroline systems in acetonitrile, 943
- Jabłoński M. Jovanović adsorption isotherm for gaseous mixtures (Short commun.), 419
- Jacobasch H. J., Grosse I., Hermel G., Schurz J., Jánosi A. Zur Porenanalyse an PAN-Fasern durch Röntgenkleinwinkelanalyse und Tieftemperaturgas-sorptionsmessungen, 1269
- Jäger E., s. Claus P. K.
- Jakubke H.-D., s. Kuhl P.
- Janjić T. J., Pfendt L. B., Pasulj M. B. Study on heterogeneous equilibria in saturated solutions of sparingly soluble diprotic acids, 125
- Janjić T. J., Pfendt L. B., Pasulj M. B. Two-phase buffer systems containing a sparingly soluble diprotic acid as the solid phase, 705
- Jánosi A., s. Jacobasch H. J.
- Jaroniec M., Marczewski A. W. Adsorption from solutions of nonelectrolytes on heterogeneous solid surfaces: A four-parameter equation for the excess adsorption isotherm, 541



- Jaroniec M., Marczewski A. W. Physical adsorption of gases on energetically heterogeneous solids, I. Generalized Langmuir equation and its energy distribution, 997
- Jaroniec M., Marczewski A. W. Physical adsorption of gases on energetically heterogeneous solids, II. Theoretical extension of a generalized Langmuir equation and its application for analysing adsorption data, 1013
- Jaroniec M., s. Kosmulski M.
- Jarowicki K., Jaworski T. Synthons for syntheses of spiro[2.4]heptane analogues of prostaglandins, 605
- Jashari G., s. El-Basil S.
- Jasper-Tönnies B., Müller-Buschbaum H. Ein neues Oxotantalat mit bronzeähnlicher Kristallstruktur:  $\text{Ba}_4\text{CoTa}_{10}\text{O}_{30}$ , 1151
- Jaworski J. S. Two parameter donor-acceptor approach to solvent effects on the electrode kinetic of cations (Short commun.), 415
- Jaworski T., s. Jarowicki K.
- Juneke H., s. Gödl S., Mittelbach M., Trathnigg B.
- Jungwirth W., s. Edinger J., Falk H.
- Kalchhauser H., s. Haslinger E.
- Kalidas C., s. Devi T. P.
- Kalinowski M. K., s. Wagner E.
- Kaliszan R., s. Pilarski B.
- Kapl G., s. Falk H.
- Kappe T., s. Habib N. S., Pongratz E., Stadlbauer W.
- Kastner G., s. Mittelbach M.
- Kaushik N. K., s. Khera B.
- Kerbl H., s. Wendelin W.
- Khalifa M. M., s. Afsah E. M.
- Khera B., Sharma A. K., Kaushik N. K. Salicylaldehyde chelates of bis(cyclopentadienyl)zirconium(IV), 927
- Klepp K. O.  $\text{Ti}_2\text{SnS}_3$  — ein Thiostannat mit  $[\text{SnS}_3]^{2-}$ -Ketten, 1133
- Knittel D. Kathodische Reduktion von  $\alpha$ -Azidostyrolen. Elektrolytische Untersuchungen an Vinylaziden. 1. Mitt., 523
- Knittel D. Synthese von ungesättigten und gesättigten Aminosäurederivaten durch kathodische Reduktion von Azidozimtsäureestern. Elektrolytische Untersuchungen an Vinylaziden. 2. Mitt., 1335
- Knittel D., Henning A. Eine kleine Elektrolysezelle für organische Synthesen. Versuch einer Standardisierung, 391
- Knop J. V., s. El-Basil S.
- Kolev D. N., s. Chetkarov M. L.
- Kollenz G., Seidler P. Untersuchungen von Reaktionsmechanismen durch Isotopenmarkierung. IX. Zum Ringverengungsmechanismus von 1,4-Benzthiazin-2,3-4H-dion, 623
- Konieczko W. T., s. Wróblewski A. E.
- Kosmulski M., Jaroniec M. Isotope exchange kinetics at heterogeneous solid surfaces (Solid—liquid interfaces), 147
- Kostuch A., s. Erndt A.
- Kowal A. T., Skarzewski J. Resonance Raman spectra of iron(II) complexes with 4,4'-didodecyloxy-2,2'-bipyridine and 4,4'-dioctadecyloxy-2,2'-bipyridine, 953

- Kratky C., Reischl W., Zbiral E. Zur Epoxidation der  $\Delta^7$ -Doppelbindung in Vitamin D<sub>3</sub>. Röntgenstrukturanalyse des 4-Phenyl-1,2,4-triazolin-3,5-dion-Addukts — eine Strukturrevision, 1453
- Kratz R., s. Gutmann V.
- Kratzl K., s. Lorbeer E.
- Kubaszek M., s. Smoliński S.
- Kuhl P., Döring G., Neubert K., Jakubke H.-D. Synthese von N-geschütztem Eledoisin (6-11)-Hexapeptid unter Verwendung von Proteasen als Biokatalysatoren, 423
- Kulicki Z., s. Burghardt A.
- Kumar K., Prasad D. R., Nigam P. C. Ternary complexes in solution: Complex formation between copper(II), zinc(II), cadmium(II) and ligands of biological importance, 731
- Kumar R., Tripathi S. P., Chaturvedi G. K. Equilibrium studies on some heteroligand hydroxo complexes of lanthanons with iminodiacetic acid and citraconic or maleic acid, 283
- Kuran W., s. Rokicki G.
- Kurzer F., Morgan A. R., Rettig S. J. Diisophorone and related compounds. Part 11. A partial aromatisation of diisophorone, 333
- Kurzer F., Patel J. N. Diisophorone and related compounds. Part 12. Synthesis of 4-bromodiisophorones and their reactions with nucleophiles, 793
- Kurzer F., Patel J. N. Diisophorone and related compounds. Part 13. Nucleophilic reactions of 8-bromodiisophorone-1-carboxylic acid, 809
- Kurzer F., Patel J. N. Diisophorone and related compounds. Part 14. <sup>13</sup>C-Nuclear magnetic resonance spectra of diisophorone carboxylic acids, 825
- Kuźnik B. Solvent extraction of certain rare earth metal ions with 1-(2-pyridylazo)-2-naphthol (PAN). II. Extraction of ytterbium(III) by PAN from aqueous-ethanol solutions, 289
- Kuźnik B. Solvent extraction of rare earth metal ions with 1-(2-pyridylazo)-2-naphthol (PAN), III. Extraction of ytterbium(III) and holmium(III) by PAN from aqueous-methanol solutions, 683
- Kwiatkowski S., Wolinski A. Reactions of 1,3-dioxacyclanes with acid halides. A new synthesis for  $\omega$ -halohydrine esters (Short commun.), 869
- Kynev K., s. Stavrev K.
- Lampe F. v., s. Grimmer A.-R.
- Langhof H., s. Effenberger H.
- Leis J. R., s. Casado J.
- Lerflaten O., Parker V. D., Margaretha P. Mechanistic studies on the electrohydrodimerization of benzyldienemalononitriles, 697
- Li S., Albertsson A. C., Gupta A., Bassett W., Jr., Vogl O. Functional polymers. XXVII: 2[2-Hydroxy-4-acryloxy(methacryloxy)phenyl]2H-benzotriazole: monomers, polymers, and copolymers, 853
- Linert W., Stiglbrunner K., Gutmann V. Mechano-elektrochemische Effekte, I. Verschiebung des elektrochemischen Potentials bei plastischer Deformation von Kupfer in wäßrigen Elektrolyten, 905
- Lippmaa E., s. Grimmer A.-R.
- Lomozik L. Complex compounds of Cu(II) and Zn(II) with N,N-dimethylglycine and N,N-diethylglycine in water and in water-methanol system, 261

- Lomozik L. Nickel(II), copper(II) and zinc(II) complexes with *N*-phenylglycine in water—methanol solution, 401
- Lomozik L. A study of complex equilibria of phenylglycine with nickel(II), copper(II), and zinc(II) in water and in water—methanol solution, 921
- Lomozik L. Ni(II)/*N,N*-dimethylglycine complex equilibrium study (Short commun.), 1319
- Lorbeer E., Mayr M., Hausmann B., Kratzl K. Zur Identifizierung flüchtiger Substanzen aus biologischem Material mit Hilfe des CLSA (Closed Loop Stripping Apparatus), 1107
- Mägi M., s. Grimmer A.-R.
- Malyszko J., Gierulski D. Kinetic parameters of the In(III)/In(I) electrode reaction in bromide medium (Short commun.), 1401
- Marczewski A. W., s. Jaroniec M.
- Margaretha P., s. Lerflaten O.
- Mastragostino M., s. Casalbone G.
- Mayr M., s. Lorbeer E.
- McNaney J. A., Zimmerman F. M., Zimmerman H. K. Influence of solvent polarity upon salt solubilities, II. Solubilities of two potassium carboxylates at 85°C in aqueous 1,4-dioxane, 1039
- Mehlhorn A., s. Fabian J.
- Meindl W., s. Hahn H.
- Mercè R., s. Daroca A.
- Metwally M. A., s. Afsah E. M.
- Miehling W., s. Brunner H.
- Milart P., s. Moskal J.
- Misra V. D., s. Gupta K. C.
- Mittelbach M., Kastner G., Junek H. Ricinin — einfach synthetisiert. Synthesen mit Nitrilen, 72. Mitt. (Kurze Mitt.), 1467
- Morgan A. R., s. Kurzer F.
- Moskal A., s. Moskal J.
- Moskal J., Moskal A., Milart P. Conjugated Schiff bases. 15. Substituent effect on the cycloaddition of heterocumulenes to some 1-oxa-4-azabutadienes, 187
- Mosquera M., s. Casado J.
- Müller N., s. Csuk R., Edinger J., Falk H.
- Müller-Buschbaum H., s. Jasper-Tönnies B., Waburg M.
- Negulescu I., s. Uglea C.
- Neubert K., s. Kuhl P.
- Nigam P. C., s. Kumar K.
- Nikokavouras J., Vassilopoulos G. Effect of nicotine on the chemiluminescence of lucigenin in model membrane structures, 437
- Offenbacher H., s. Wolfbeis O. S.
- Öhler E., Zbiral E. Synthese, Reaktionen und NMR-Spektren von 2-Brom-3-oxo-1-alkenyl- und 3-oxo-1-alkinylphosphonsäure-dialkylestern, 493
- Öhler E., Zbiral E. Cyclisierungsreaktionen von Diazoalkenyl-phosphonsäureestern. Synthese von Pyrazolyl- und 2,3-Benzodiazepinylphosphonsäureestern, 629
- Ongania K.-H., Schwarzenbrunner U., Humer K. Synthese von 3,3a-Dihydro-2*H*,5*H*-azeto[2,1-*b*]benzo[*d*]-1,3-oxazin-2,5-dionen, I, 215

- Osborne A. G. Naphthopyrones, Part I. Proton magnetic resonance spectral studies of some methylnaphthopyran-2-one and methylnaphthopyran-4-one derivatives, 613
- Osborne A. G. Naphthopyrones, Part II. Carbon-13 magnetic resonance spectral studies of some methylnaphthopyran-2-one and methylnaphthopyran-4-one derivatives, 749
- Osmialowski K., s. Pilarski B.
- Osovska-Pacewicz K., s. Zwierzak A.
- Palma G., s. Baeza J.
- Para A., s. Erndt A.
- Parikh R. D., s. Saxena R. S.
- Parkash R., Ahluwalia S. C., Paul R. C. Heats of solution and neutralization of protonic acids and bases in ethanol, 135
- Parker V. D., s. Lerflaten O.
- Pasulj M. B., s. Janjić T. J.
- Patel J. N., s. Kurzer F.
- Paul R. C., s. Parkash R.
- Paz L. C., s. Casado J.
- Pena M. E., s. Casado J.
- Perelló L., Borrás J., Soto L., Gordo F. J., Gordo J. C. Complex formation of hypoxanthine and 6-mercaptopurine with Cd(II) ion, 1377
- Perné J., s. Trathnigg B.
- Pfendt L. B., s. Janjić T. J.
- Pilarski B., Foks H., Osmialowski K., Kaliszan R. Studies on pyrazinylpyrazolidene tautomerism of pyrazine-acetonitrile derivatives, 179
- Pindur U., s. Akgün E.
- Pittner F., s. Roitner M.
- Pogorzelska-Marciniak B., s. Rokicki G.
- Polansky O. E., s. Graovac A.
- Pongratz E., Kappe T. Ylide von Heterocyclen, VIII. Reaktionen von Iodonium-Yliden mit Säuren, 231
- Popitsch A., s. Trathnigg B.
- Prasad D. R., s. Kumar K.
- Proctor G. R., s. Afsah E. M.
- Puri M., Verma R. D. Trinuclear metal(III) trifluoroacetates, 533
- Purschitzky A., s. Falk H.
- Quint R., Boller H., Blaha H. Zur Kenntnis der Kaliumthiochromite, 975
- Radwańska-Dočekalska J., s. Czakis-Sulikowska D. M.
- Rani N., s. Ahluwalia V. K.
- Reischl W., s. Kratky C.
- Reithmaier M., s. Haslinger E.
- Resch G., s. Gutmann V.
- Rettig S. J., s. Kurzer F.
- Ribó J. M., s. Daroca A.
- Riedl R., s. Wendelin W.
- Robien W., s. Buchbauer G., Haslinger E.
- Rodriguez I., s. Cea-Olivares R.
- Rodriguez Prieto M. F., s. Casado J.
- Roitner M., Schalkhammer T., Pittner F. Characterisation of naringinase from *Aspergillus niger*

- Rokicki G., Kuran W., Pogorzelska-Marciniak B. Cyclic carbonates from carbon dioxide and oxiranes, 205
- Rozwadowski M., Wiśniewski K. E. Application of kinetic investigations for interpretation of *n*-hexane and benzene adsorption on active carbon, 271
- Ruis H., s. Bachmair A.
- Sachdev P., s. Gakhar H. K.
- Safari H., s. Blaschette A.
- Saljoughian M. A convenient two-step preparation of monodeuteriated tetramethylsilane (Short commun.), 519
- Sasim D., Śrudka M., Gumiński C. On the interaction between gold and copper in mercury, 45
- Saxena R. S., Gupta A. Electrochemical studies on the composition, stability constants and thermodynamics of Tl(I) complexes with dithiodipropionic acid, 1293
- Saxena R. S., Parikh R. D., Gupta K. C. Electrochemical studies on the composition, stabilities and thermodynamics of  $Zn^{+2}$ ,  $Cd^{+2}$  and  $Pb^{+2}$  complexes with methylene bis thio acetic acid, 141
- Schalkhammer T., s. Roitner M.
- Schauer H., s. Gutmann V.
- Schlederer M., s. Haslinger E.
- Schlögl K., Widhalm M. A recycling technique for the chromatographic separation of enantiomers and diastereomers on triacetylcellulose, 1113
- Schlögl K., s. Eyer M.
- Schmölzer H., Hengge E. Zum Chlor/Brom-Austausch an Disilanen, 1125
- Scholz D. Neue Synthesemethoden, 11. Mitt.:  $\alpha$ -Alkylthiolierung von cyclischen Ketonen via ihre Enamine (Kurze Mitt.), 655
- Scholz D. Neue Synthesemethoden, 13. Mitt.:  $\alpha$ -Alkylthiolierung von Arylalkylketonen (Kurze Mitt.), 1121
- Schurz J., s. Jánosi A.
- Schwarzenbrunner U., s. Ongania K.-H.
- Seidler P., s. Kollenz G.
- Sharma A. K., s. Khera B.
- Sindhu R. S., Singh R. P. Potentiometric studies on the complexes of some trivalent rare earths with 5-chloropyridine-2,3-diol, 993
- Singh D., s. Ahluwalia V. K.
- Singh R. P., s. Ahluwalia V. K., Sindhu R. S.
- Skarzewski J., s. Kowal A. T.
- Śliwa W., s. Bachowska B.
- Smoliński S., Kubaszek M. Synthese und Konformation einiger Azaspirane mit Alkyl- bzw. Aryl-Sulfonamid-Gruppen. Über Spirane, 24. Mitt., 79
- Sobott R. Das System  $Tl_2S-Cu_2S$  (Kurze Mitt.), 1397
- Sójka G., s. Czakis-Sulikowska D. M.
- Soriano-García M., s. Cea-Olivares R.
- Soto L., s. Perelló L.
- Śrudka M., s. Sasim D.
- Stadlbauer W., Kappe T. Synthese von Indolen und Isochinolonen aus Phenylmalonylheterocyclen, 467

- Stavrev K., Kynev K. Effect of the second coordination sphere on the electron transition energies in ZnS—Mn (Short commun.), 1393
- Steindl H., s. Haslinger E.
- Sterk H., s. Ziegler E.
- Stiglbrunner K., s. Linert W.
- Stotz D., s. Böhmer V.
- Swinehart J. H., s. Gamsjäger H.
- Tato J. V., s. Casado J.
- Toifl E., s. Hahn H.
- Toscano R. A., s. Cea-Olivares R.
- Trathnigg B., Golob K., Junek H., Perné J., Popitsch A. Chelatbildende Enaminoketone, I. Synthese von unsymmetrischen Liganden, 1353
- Trathnigg B., s. Gödl S.
- Trinajstić N., s. El-Basil S.
- Tripathi R. P., s. Ahluwalia V. K.
- Tripathi S. P., s. Kumar R.
- Trull F., s. Daroca A.
- Tyutyulkov N., s. Fabian J.
- Uglea C., Corduneanu I., Negulescu I. Characterization of polyesters: Thermo-oxidative degradation, 349
- Utvary K., s. Hahn H.
- Vallès A., s. Daroca A.
- Vassilopoulos G., s. Nikokavouras J.
- Venkatachalam C. S., s. Devi T. P.
- Verma R. D., s. Puri M.
- Vierhapper F. W., s. Hönel M.
- Viswanathan S., s. Amirtha N.
- Vogl O., s. Li S.
- Vogt W., s. Böhmer V.
- Völlenkne H., s. Buchbauer G.
- Waglechner R., s. Heinisch G.
- Waburg M., Müller-Buschbaum Hk. Synthese und Strukturuntersuchung von  $Zn_3Ta_2O_8$ , 15
- Wagner E., Kalinowski M. K. Empirical correlations between solvent acidity and the optical characteristics of solvated electrons, 1313
- Wassmann C., s. Buchbauer G.
- Weidmann H., s. Csuk R.
- Weissensteiner W., Werner A. Reststereoisomere Tricarbonylchrom-Komplexe — eine Möglichkeit zur Enantio-merentrennung von torsionsisomeren Benzolderivaten, 223
- Wendelin W., Kerbl H. Synthese aryl-substituierter 2-Pyrimidinamine, Dihydro-2-pyrimidinamine und Pyrimido-[1,2-a]pyrimidine durch Reaktion von Guanidin mit Chalkonen, 309
- Wendelin W., Riedl R. Über die Struktur der Acrylnitril-Guanidin-Kondensate. Über Heterocyklen, 81. Mitt., 445
- Werner A., s. Weissensteiner W.
- Widhalm M., s. Eyer M., Hofer O., Schlögl K.
- Wiśniewski K. E., s. Rozwadowski M.

Wittmann H., s. Ziegler E.

Wolfbeis O. S., Offenbacher H. The effects of alkali cation complexation on the fluorescence properties of crown ethers, 647

Wolfbeis O. S., s. Ziegler E.

Wolinski A., s. Kwiatkowski S.

Wolschann P., s. Falk H., Haslinger E.

Wróblewski A. E., Konieczko W. T. Stereochemistry of 1,2-oxaphospholanes, III. Evidence for the retro-*Abraham* pathway in methoxide-catalysed equilibration of substituted 2-methoxy-2-oxo-1,2-oxaphospholan-3-ols, 785

Zayed E. M., Ghazlan S. A. S., Ibrahim A.-A. H. Studies on 5-aminopyrazole derivatives. Synthesis of some new fused pyrazole derivatives, 431

Zbiral E., s. Kratky C., Öhler E.

Ziegler E., Wittmann H., Wolfbeis O. S., Sterk H. Über die Bildung eines neuen, stark fluoreszierenden Heterocyclus bei der versuchten Quarterinisierung von Chinolin, 1165

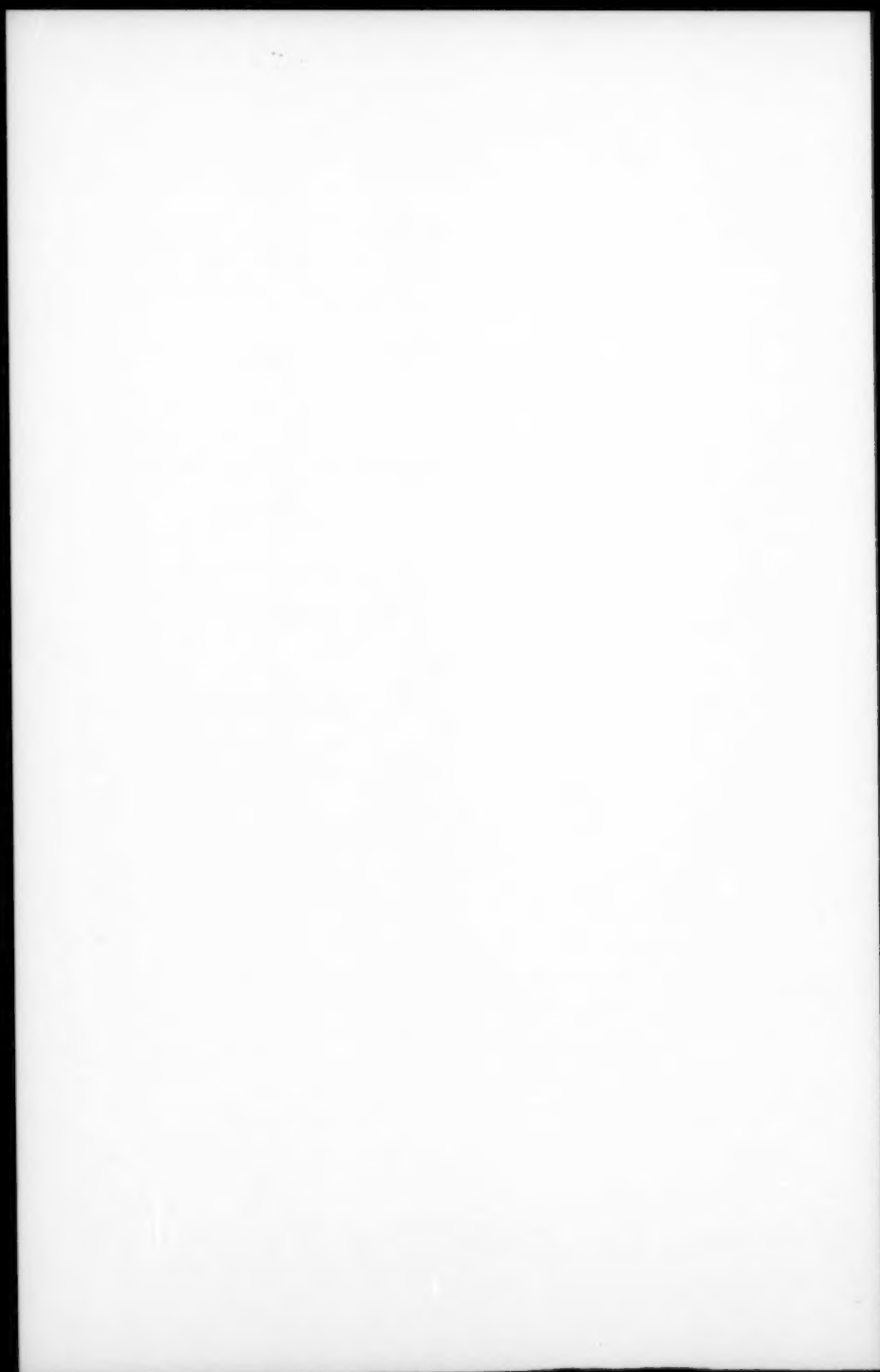
Zimaity M. T., s. Afsah E. M.

Zimmerman F. M., s. McNaney J. A.

Zimmerman H. K., s. McNaney J. A.

Zrunek U., s. Edinger J., Falk H.

Zwierzak A., Osowska-Pacewicz K. Direct conversion of diethyl hydrogen phosphate into diethyl phosphoramides (Short commun.), 117





# Sachverzeichnis/Subject Index

- Acetate buffer 669  
 Acetic acid/acetate ion buffer 155  
 Acetonitrile 943  
 3-Acetoxy-4-hydroxy-2-quinolones 231  
*Achillea depressa* 477  
 Acid-base equilibrium of 2,3-dihydro-bilatrienes-abc 243  
 Acrylonitrile-guanidine condensates 445  
 Active malonic esters 1459  
*N*-Acylenamides 523  
 Adsorbents 271  
 Adsorption 271, 419, 541, 551, 997, 1013  
 Adsorption from liquid mixtures 541  
 Alcoholysis of aromatic carboxylic esters 1185  
 Alkaloids 1373  
 Alkaloid synthesis 1467  
 Alkyl(amidosulfonyl)peroxide 875  
 Alkylhydroperoxides 875  
 Alkyl-4-methylbenzenethiosulfonates 655, 1121  
 4-Alkylpyridazines, 5-substituted 1171  
 Alkylthiolation 655, 1121  
 Allylic rearrangement 1171  
 Amalgam 45, 113  
 5-(2-Aminophenyl)-1,3,4-oxadiazole-2(3*H*)-one 565  
 5-Aminopyrazoles 431  
 3-Amino-2,4(1*H*,3*H*)-quinazolinedione 565  
 Analytical determination, Ce(III) 57  
 Aprotic solvents 391, 1143  
 Aromatization of diisophorones 327  
 Aryl-carbonyl derivatives 197  
*Asa foetida* 1207  
*Aspergillus niger* 1255  
 Associate induced CD 455  
 Asymmetric catalysis 1373  
 Autoxidation 87  
 Axial chirality 1113, 1429  
 Aza 79, 187, 303, 881, 899, 1101  
 Aza-aromatic *N*-ylides 1101  
 3-Azabicyclo[3.2.1]octane 303  
 Azaspirans 79  
 $\alpha$ -Azidocinnamic ester 1335  
 $\alpha$ -Azidostyrenes 523  
 Barium, Ba<sub>4</sub>CoTa<sub>10</sub>O<sub>30</sub> 1151  
 Basicities of quinolines 1219  
 Benzene adsorption 271  
 Benzene-cyclohexane adsorption 541  
 Benzenethiol 1369  
 Benzenoid hydrocarbons 1299  
 Benzimidazo[2,1-*h*]pteridine-2,4-diones 757  
 Benzochromone 613, 749  
 Benzocoumarin 613, 749  
 Benzo-2,3-diazepinyl-phosphonates 629  
 Benzo[*h*]naphthyridinium *N*-phenacylides 1101  
 [1]Benzopyrano[4,3-*b*]indol-6(11*H*)-ones 467  
 [1]Benzopyrano[4,3-*c*]isoquinoline-5,12(11*H*)-diones 467  
 1,4-Benzothiazin-2,3-4*H*-dione 623  
 Benzthiazole 623  
 Benzylidene *N,N'*-dimethyl barbituric acid 375  
 Benzylidenemalononitriles 697  
 Bilatriene-abc 121, 873, 1081  
 Bilatriene-violin conversion 101  
 Bile pigments, s. Pyrrole pigments  
 Biliverdin 121, 873  
 Binuclear biscarbene complexes 1159  
 Biocatalysts 423  
 Biomimetic reaction 1369  
 Biphenyls, tricarbonylchromium complexes 1429  
 2,2'-Bipyridine, complexes 943  
 Bipyridyl, complexes 731  
 1,5-Bis(aminomethyl)-3-azabicyclo[3.2.1]octanones 303

- Biscarbene 1159  
 Bis(cyclopentadienyl)zirkonium(IV) 927  
 Bis(hydroxybenzyl)phenols 65  
 Bis-Mannich bases 581  
 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiaphosphetane 2,4-disulfide 769  
 Bis(morpholinomethyl)- $\gamma$ -piperidones 581  
 Bis(piperidinomethyl)piperidine 303  
 Bond order 935  
 Bromide medium 1397  
 Bromination 357  
 Bromination, electrochemical 659  
 Bromination of phenols 65  
 Bromine-Cl exchange 1125  
 Bromine-toluene interaction 659  
 8-Bromo-1-carboxydiisophor-2(7)-en-3-one 809  
 8-Bromodiisophorone, aromatization 327  
 8-Bromodiisophorone-1-carboxylic acid 809  
 4-Bromodiisophorones 793  
 2-Bromo-3-oxo-1-alkenylphosphonates 493  
 Buta-1,3-diene 1059
- CA 21  
 Cadmium(II) complexes 141, 731, 1377  
 Calorimetry 135  
 Carbene ligand transfer 1159  
 Carbon adsorbents 271  
 Carbonates, cyclic 205  
 Carbon-14-labeling 623  
 Carbonyl, aryl derivatives 197  
 Carboxybenzylphenylthioformimidates 215  
 1-(Carboxyphenyl)-4-methylthio-2-azetidinones 215  
 Catalysis, asymmetric 1373  
 Catalysis, metal salt 1185  
 Catalytic enantioselective cyclopropanation 1237  
 Catalytic hydrogenation 1219  
 Cathodic reduction 1335  
 Cellobiose 1321  
 Cellobiose hydrolysis 1321  
 Centrochiral arenes 1113  
 Cerium(III) chelates 57  
 Cerium, determination 57  
 Chalcogenides, Cu—Ti containing 1397
- Chalcones 309  
 Charge transfer complexes 659  
 Chelating agents 1353  
 Chelating polymers 1353  
 Chelating resins 1329  
 Chemiluminescence 437  
 Chlamydocin 779  
 Chlorine-Br exchange 1125  
 4-( $\alpha$ -Chloroalkyl)pyridazines 1171  
 10-Chloro-2-exo-hydroxyisocamphane 509  
 10-Chloroisoborneol 509  
 Chlorolysis 215  
 3-Chloro-3-methylbutyne-1 327  
 5-Chloropyridine-2,3-diol, complexes 993  
 Chromans 1059  
 Chromatographic analysis 1185  
 Chromatography for optical resolution 1113  
 Chromenopyrans 327  
 Chromium(III) complexes 533  
 Chromophore 21  
 $\alpha$ -Chymotrypsin 423  
 Cinchona alkaloids 1373  
 Cinnamonnitriles 1413  
 Circular dichroism 455, 477, 1081, 1429  
 Citraconic acid, complexes 283  
 Claisen migration 327  
 Cloning vectors 1229  
 Closed loop stripping apparatus 1107  
 CNDO/2-MO 179  
 Cobalt, Ba<sub>4</sub>CoTa<sub>10</sub>O<sub>30</sub>  
 Cobalt complexes 415  
 Cobalt, K—OH—SO<sub>4</sub> salt, X-ray 165  
 Colour and constitution 21  
 Comparable force fields 935  
 Complexation 647  
 Complexes, s. Metal complexes  
 Complexes of pyridine with proton donors 1345  
 Complex stabilities 731  
 Compositae—Anthemideae 477  
 Computation 21, 179, 1421  
 Conductance 927  
 Conductometric 141  
 Configuration analysis 1421  
 Conformation 79, 223, 779, 1199, 1429, 1443  
 Conjugate addition of cuprate 605  
 Contact memory 551  
 Copolymers 853

- Copper, Au, Ga, Hg 45  
 Copper(II) catalysis 1237  
 Copper(II) complexes 261, 401, 731, 921  
 Copper(II) hydroxichloride, crystal structure 725  
 Copper, solubility in Hg 45  
 Copper surfaces, properties 905  
 Copper-Tl containing chalcogenides 1397  
 Cooxidation reaction 1369  
 COSY 93  
 Coumarins 327, 477, 613, 749, 765, 1207  
 Crotylbenzaldehydes 1059  
 Crown ethers 205, 647  
 Crystal structure,  $\text{Ba}_4\text{CoTa}_{10}\text{O}_{30}$  1151  
 —,  $\text{Cu}(\text{OH})\text{Cl}$  725  
 —, diisophorone derivatives 327  
 —, 4,4'-(1,2-ethanediylidimino)bis(1,1,1-trichloro-3-penten-2-one) 485  
 —,  $\text{K}_2\text{Co}_2(\text{OH})_2(\text{SO}_4)_3 \cdot 2\text{H}_2\text{O}$  165  
 —,  $\text{KCr}_2\text{S}_5$  975  
 —,  $\text{K}_{0.5}(\text{H}_2\text{O})_{0.2}\text{CrS}_2$  975  
 —,  $\text{Ti}_2\text{SnS}_3$  1133  
 —, tricyclo[7.3.1.0<sup>2,7</sup>]tridecane 739  
 —, vitamin D<sub>3</sub>, 4-phenyl-1,2,4-triazolin-3,5-dion adduct of the 7,8-epoxy derivative 1453  
 —,  $\text{Zn}_3\text{Ta}_2\text{O}_{18}$  15  
 Cumene 87  
 Cumulenes 187  
 Cyanoethylation 1413  
 2-Cyano-2-propyl hydroperoxide 87  
 Cyclic carbonates 205  
 Cyclic, non carbon 881, 899  
 Cyclisation, 1,5 and 1,7 629  
 1,3-Cycloaddition 187  
 Cycloaddition, 1,3-dipolar 1101  
 Cyclodehydrogenation 467  
 2-Cyclohexenone 1373  
 Cyclooctadienones 1065  
 2*H*-Cyclopenta[*b*]furan-2-ones 605  
 Cyclopropanation 1237  
  
 Dark reaction sequence 101  
 Deformation, electrochemical potential shifts 905  
 Dehalogenation 215  
 Dehydroaminoacid derivatives 1335  
 Desulfurization 605  
 2D-<sup>1</sup>H-<sup>13</sup>C-correlated NMR 93  
  
*N,N*-Diacylamides 523  
*N,N*-Diacylenamides 523  
 Diamino-methoxy-pyridinecarbonitriles 1421  
 Diaryl-2-cyclohexen-1-ones 1065  
 Diaryl- $\alpha$ -tetralone 1065  
 Diazadiphosphetidines 881, 899  
 3,6-Diazatricyclo[4.3.1.1<sup>3,8</sup>]undecanone 581  
 Diazoacetic acid ester, cyclopropanation of 1237  
 Diazo-alkenylphosphonates 629  
 Dibenzo[*c,h*]naphthyridine-6,11(5*H*,12*H*)-diones 467  
 Diethyl hydrogenphosphate 117  
 Dicarbonyl compounds, protected 587  
 4,4'-Diododecyloxy-2,2'-bipyridine, complexes 953  
*N,N*-Diethylglycine 261  
 Diethyl phosphoramides 117  
 Diffuse reflectance 533  
 Diffusion 271, 1143  
 3,3-*a*-Dihydro-2*H*,5*H*-azeto[2,1-*b*]-benzo[*d*]-1,3-oxazin-2,5-diones 215  
 3,4-Dihydro-1*H*-1,3,4-benzotriazepine-2,5-dione 565  
 2,3-Dihydrobilatrien-abc-3-cholesteryl derivative 837  
 2,3-Dihydrobilatriene-lactim ethers 1443  
 2,3-Dihydrobilatrienes-abc 101, 243, 837, 1071, 1081  
 3,4-Dihydropyrromethenones 1443  
 Diisophorone, aromatized dibromo, X-ray 327  
 Diisophorone carboxylic acids, <sup>13</sup>C-NMR 809  
 Diisophorones 333, 793, 809, 825  
 Dikalium-tricobalt(II)-dihydroxy-trisulfate-dihydrate 165  
 2,2-Dimethyl-chromenopyrans 327  
*N,N*-Dimethylglycine 261  
*N,N*-Dimethylglycine, complexes 1319  
 4,4'-Diocetadecyloxy-2,2'-bipyridine, complexes 953  
 1,3-Dioxacyclanes 869  
 1,3-Dioxanes, ring opening 869  
 1,3-Dioxolanes 587  
 1,3-Dioxolanes, ring opening 869  
 1,3-Diphenylacetone 581  
 1,1-Diphenylethylene, cyclopropanation of 1237  
 Dipyrzolylmethanes 197

- 4,4'-Dipyridyl, complexes 961  
 Diprotic acids 125, 705  
 Disilane 1125  
 Diterpene acids 597  
 Dithiaphosphetane 769  
 Dithiopropionic acid complexes 1293  
 Donor-acceptor model 415  
 Dyes 21, 197  
  
 Electroanalysis of Au—Cu amalgam 45  
 Electrochemical bromination 659  
 Electrochemical potential shifts due to deformation 905  
 Electrochemistry 141, 391, 415, 523, 659, 697, 905, 1279, 1293, 1397, 1401  
 Electrode kinetics 415, 1397  
 Electrohydrodimerization 697  
 Electrolysis cell 391  
 Electron accepting ability of  $-\text{CCl}_3$  485  
 $\pi$ -Electron energy 1  
 Electrons, solvated 1313  
 Electron transition energies 1393  
 Electroorganic synthesis 391  
 Electrophilic attack 357  
 Eldeoisin (6-11)hexapeptide 423  
 Enamines 655  
 Enaminoketones, chelating 1353  
 Enaminonitriles 431  
 Enantiomeric excess 1373  
 Enantiomeric purity 1113, 1429  
 Enantioselective cyclopropanation 1237  
 Enantiospecific synthesis 837  
 Enzyme characterization 1255  
 Enzyme hydrolysis 1405  
 Enzymic synthesis 423  
 Epoxidation of vitamin  $\text{D}_3$  1453  
 7,8-Epoxy-vitamin  $\text{D}_3$ , crystal structure of the 4-phenyl-1,2,4-triazolin-3,5-dione adduct 1453  
 Esters, mono- and polycarboxylic 1185  
 4,4'-(1,2-Ethanediyldiimino)bis(1,1,1-trichloro-3-penten-2-one), crystal structure 485  
 Ethoxycarbonylmethylenetriphenylphosphorane 765  
 Ethyl bromoacetate 1165  
 Europium cation 415  
 Everett equation, generalized 541  
 Exchange, Cl/Br 1125  
 Excitation profiles 953  
 Excited state 243  
 2-Exo-10-Dichlorobornane 509  
 Extraction 289, 683  
  
 Farnesiferol A and isomers 1207  
 Ferula 1207  
 Fibers 1269  
 Fluorescence 647  
 Fluorescent 1165  
 Fluorodiazadiphosphetidines 881, 899  
 FMO 21  
 Force constants 713  
 Formation constants 943  
 Formyl compounds 935  
 Förster cycle 243  
 Fractionation 349  
 Free energy of solution 1039  
 Frontier orbital model 357  
 Furanurono-6,3-lactones 93  
 Fused pyrazoles 431  
  
 Gas sorption 1269  
 Gels with phosphorus containing anchor groups 1329  
 Glass capillary-GLC, GC/MS 1107  
 Glass structure 987  
 Gluco-configured 93  
 $\beta$ -Glucosidase 1321  
 Gold, AuCu, formation in Hg, thermodynamics of 45  
 Gold, AuCu, solubility in Hg 45  
 Gold, binuclear biscarbene complexes, W 1159  
 Gold—Cu—Ga amalgam 45  
 Gold, Cu, Ga, Hg 45  
 Guanidine 309  
 Guanidine, substituted 445  
  
 Halobenzenes 1143  
 $\omega$ -Halohydrine esters, synthesis 869  
 Heats of neutralization 135  
 Heats of solution 135  
 Heavy metal removal 1329  
 Heterocumulens 187  
 Heterocyclic 57, 79, 93, 101, 121, 179, 187, 205, 215, 231, 243, 303, 309, 327, 357, 383, 431, 445, 467, 565, 573, 587, 613, 623, 629, 749, 757, 769, 779, 785, 837, 853, 869, 1059, 1071, 1081, 1101, 1165, 1171, 1199, 1219, 1279, 1413, 1443, 1459, 1467  
 1,3-Heterodienes 187

- Heterogeneity effects in isotope exchange kinetics 147  
 Heterogeneous equilibria 125, 705  
 Heterogeneous isotope exchange 147  
 Heterogeneous solids 997, 1013  
 Hexamethyltriaminodibromophosphorane 117  
*n*-Hexane adsorption 271  
 Hexofuranurono-6,3-lactones 93  
 Hierarchic order in the solid state 551  
 Holmium(III) extraction 683  
 Hydrocarbons, benzenoid 1299  
 Hydrogenation 1219  
 Hydrogen bonding 65, 1345  
 Hydrolysis, enzyme catalyzed 1405  
 Hydrolysis of cellobiose 1321  
 Hydrolysis of ternary complexes 283  
 Hydroperoxides 87  
 Hydrophobic interactions 837  
 2-[2-Hydroxy-4-acryloxy(methacryloxy)-phenyl]2*H*-benzotriazole 853  
 4-( $\alpha$ -Hydroxyalkyl)pyridazines, alkyl-ethers 1171  
 $\beta$ -Hydroxy amins, optically active 1373  
 2-Hydroxybutyrophenones 765  
 2-Hydroxy-13-oxo-tricyclo-[7.3.1.0<sup>2,7</sup>]tridecane 739  
 2-(2-Hydroxyphenyl)2*H*-benzotriazole 853  
 4-Hydroxy-2-quinolones, 3-substituted 231  
 Hypoxanthine, complexes 1377  
  
 Ido-configured 93  
 Iminodiacetic, complexes 283  
 INADEQUATE 739  
 Indene 1369  
 Indium, electrochemistry 1397  
 Indoles 467  
 11*H*-Indolo[3,2-*c*]quinoline-6(5*H*)-ones 467  
 Induced circular dichroism 455, 1081  
 Initiation properties 87  
 Insecticidal 765  
 Interionic separations 1039  
 Intermolecular dehydration 117  
 Intramolecular hydrogen bond 65  
 Inversion, nitrogen 79  
 Iodine monochloride 35  
 IR 179, 533, 713, 927, 935, 961, 987  
 Iron(II) complexes 953  
 Iron(III) complexes 533  
 Isomerization of the proline peptide bond 779  
 Isotope effect 65  
 Isotope exchange kinetics 147  
 Isoquinolones 467  
 Isoxazolo[2,3-*a*]pyridines 573  
 Isoxazolo[4,3-*c*]pyridines 573  
  
 Jovanović adsorption isotherm 419  
  
 Kathodic reduction 523  
 Kekulé structures 1299  
 Kinetic adsorption 271  
 Kinetic isotope effect 65  
 Kinetics 35, 65, 87, 147, 155, 405, 415, 669, 697, 779, 1047, 1185, 1321, 1385, 1401  
 Kinetics of conformational changes 779  
 Kinetics of nitrosation 1047  
  
 Labeling, <sup>14</sup>C 623  
 Lactones 93  
 Langmuir equation, generalized 997, 1013  
 Lanthanide induced shifts 1443  
 Lanthanons, complexes 283  
 Layer compounds 975  
 Lead(II)-calcite phases 251  
 Lead(II) complexes 141  
 Lead(II), immobilization and mobilization 251  
 Lewis acids, organic 375  
 Ligand transfer 1159  
 Linear homopolymeric substrates 1405  
 Liquid-solid interface 147  
 Lithiomethyltrimethylsilane 519  
 Low temperature C-13 NMR spectroscopy 1199  
 Lucigenin 437  
 Luminescence, thermally stimulated, of metal powders 551  
  
 Magnetic moments 533  
 Maleic acid, complexes 283  
 Manganese activated ZnS 1393  
 Mannich reaction 581  
 Mechanical deformation, changes at copper-electrolyte interface 905  
 Mechanism 35, 405, 623, 697, 1279  
 Mechano-electrochemical effects 905  
 Medium effect 155

- Membranes 437  
 Metal complexes 261, 283, 289, 401, 415, 533, 731, 921, 943, 953, 961, 993, 1239, 1319, 1377  
 Metallocene chirality 1429  
 Metallocene 1113, 1429  
 Metal powder 551  
 Metal salt catalysis 1185  
 6-Mercaptopurine, complexes 1377  
 Mercuric oxide 215  
 Mercury, Cu, AuCu in 45  
 5,9-Methanobenzocyclooctene 327  
 4-Methoxycoumarins 327  
 4-Methoxy-1-methyl-2(1*H*)-pyridone-3-carbonitrile 1467  
*N*-Methylacetamide, nitrosation of 1047  
 Methylene-bis thioacetic acid 141  
 2-Methylformyl-chromans 1059  
 Methyl-naphthopyran-2-ones 613, 749  
 Methyl-naphthopyran-4-ones 613, 749  
*Michaelis-Menten* equation 1405  
*Michael* reaction 1065  
 MIM 21  
 MINDO/3 21  
 MOA 21  
 Model membrane structures 437  
 MO-energies 1  
 Molecular topology 1  
 Monocarboxylic esters 1185  
 Monolayer 419  
 Morpholine 155, 375  
 Multilayer 419  
 Multilayer adsorption 1013  
  
 Naphthopyrones 613, 749  
 Naringinase 1255  
 Neutralization reaction, NMR studies 375  
 Nickel(II) complexes 401, 921, 1319  
 Nicotine 437  
 Nitration 357  
 Nitriles,  $\alpha,\beta$ -unsaturated 1413  
 Nitrilotriacetic acid, complexes 731  
 Nitrogen inversion 79  
 Nitrosating agents 669  
*N*-Nitrosation 1047  
 Nitrosation, kinetics 155  
*N*-Nitroso compounds 669, 1047  
 Nitrosyl acetate 669  
 NMR, C-13 93, 493, 509, 597, 739, 749, 785, 825, 1199  
  
 —, 2D 93, 597, 739, 837  
 —, H-1 79, 93, 179, 509, 597, 613, 739, 927, 1207, 1443  
 —, N-15 375, 1345  
 —, Si-29 561  
 —, solid state 561  
 NOESY 837  
 Non-conjugated charges 1071  
 Nuclear *Overhauser* effect 509, 1443  
  
 Octacyanomolybdate(IV) 1385  
 Optical activity 223, 455, 1081, 1113, 1207, 1373, 1429  
 Optical induction 1237  
 Optical resolution 223  
 Optical spectrum, solvated electron 1313  
 Orbital electronegativities 935  
 Organic Lewis acids 375  
 Organometallic 57, 223, 927, 1113, 1159, 1429  
 Orthophosphoric acid 1059  
 Ovalbumin 1369  
 1-Oxa-4-azabutadienes 187  
 Oxadiazoles 565  
 1,2-Oxaphospholan-3-ols 785  
 1,3-Oxathiane-3-imides 1199  
 Oxidation 87, 349, 405, 1369, 1385  
 Oxidic superstructures on copper surfaces 905  
 Oxiranes 205  
 Oxo-alkenylphosphonates 493, 629  
 3-Oxo-1-alkinylphosphonates 493  
 2-Oxoquinoline-4-olates 231  
 Oxotantalate, crystal structure 1151  
 Oxygen, Zn, Ta 15  
  
 PAN-fibres 1269  
 Papain 423  
*Pechmann* reaction, modified 1459  
 Peptide bond, cis-trans isomerization 779  
 Peptide synthesis 423  
 Periodate oxidation 1385  
 Phase diagram, Cu—Ti—S 1397  
 Phase transfer catalyst 205  
 1,10-Phenanthroline, complexes 943  
 Phenazone 197  
 Phenols, bromination 65  
*N*-Phenylglycine, complexes 401, 921  
 pH-metric measurement 283  
 Phospha 769, 881, 899  
 Phosphanes 713

- Photochemistry 383, 659  
 Photoreduction 383  
 Photosubstitution 383  
 Phytochrome 121, 873  
 Phytochrome models, s. Pyrrole pigments  
 Piperidine 375  
*pK<sub>a</sub>*-values 1219  
 Planarchiral arenes 1113  
 Plasmid 1229  
 Polarography 1143  
 Pollutants, aqueous 251  
 Polycarboxylic esters 1185  
 Polyesters 349  
 Poly(ethylene terephthalate) 349  
 Polymerizable stabilizers 853  
 Polymers 853  
 Polymers, chelating 1353  
 Pore analysis 1269  
 Potassium carboxylates, solubility 1039  
 Potassium, Co—OH—SO<sub>4</sub> salt, X-ray 165  
 Potassium thiochromites, crystal structure 975  
 Potentiometric 141, 943, 993  
 PPM 21  
 PPP-calculations 1421  
 Propargyl ethers 327  
 4-Propyl-2*H*-1-benzopyran-2-ones 765  
 Prostaglandin analogues 605  
 Protected eleodoisin (6-11)hexapeptide 423  
 Proton transfer 1345  
 Purine systems 383  
 2*H*-Pyrano[2,3-*d*]pyrimidines 1459  
 Pyrazine-acetonitrile derivatives 179  
 Pyrazinyl-pyrazolidene tautomerism 179  
 Pyrazoles 431  
 Pyrazolo[3,4-*c*]isoxazoles 573  
 Pyrazolo[1,5-*a*]pyrimidines 1413  
 Pyrazolyl cyanine dyes 197  
 Pyrazolylphosphonates 629  
 Pyrazolylphosphonates, acyl substituted 493  
 Pyridazines 1171  
 Pyridine, complexes 943  
 Pyridine, complexes with proton donors 1345  
 1-(2-Pyridylazo)-2-naphthol 57, 289, 683  
 2-Pyrimidinamines 309  
 Pyrimidine-1-propionitriles 445  
 2*H*-Pyrimido[1,2-*a*]pyrimidine-2,8(1*H*)-diimines 445  
 4*H*-Pyrimido[1,2-*a*]pyrimidines 309  
 Pyrrole pigments 101, 121, 243, 357, 837, 1071, 1443  
 Pyrrolinones 357  
 Pyrrolo[1,2-*a*:4,3-*b'*]diquinolin-14-ium 1165  
 Pyrromethenones 357  
 Quarternization of quinoline, attempted 1165  
 Quasi-thermodynamic 1039  
 QCFF/Π 21  
 Quinaldines 1219  
 Quinazoline 1279  
 Quinol, oxidation 405  
 Quinoline, attempted quarternization 1165  
 Quinolines 1219  
 Quinolones 231  
 Raman 953  
 Rare earth complexes 289, 683, 961, 993  
 Reaction rate of autoxidation 87  
 Rearrangement 565  
 Rearrangement, allylic 1171  
 Recycling technique in chromatography 1429  
 Redistribution reaction 1125  
 Reduced graph model 1299  
 Reduction 113, 383, 523, 1219, 1279, 1335  
 Regioselective acylation 587  
 Regiospecific crotylation 1059  
 Residual stereoisomers 223  
 Resonance Raman spectra 953  
 Retro-Abramov reaction 785  
 Ricinin, synthesis 1467  
 Ring-chain tautomerism 101  
 Ring contraction reaction 623  
 Ring expansion reactions 1065  
 Ring inversion 1199  
 Ring opening of 1,3-dioxolanes and 1,3-dioxanes 869  
 Rotating disc electrode 1397  
*Saccharomyces cerevisiae* 1229  
 Salicylaldehyde chelates 927  
 Salt solubilities 1039

- Saturation transfer 779  
*Schiff* bases 187, 485  
 Search trees 1299  
 Second coordination sphere 1393  
 Sesquiterpene-isofraxidin ethers 477  
 Sesquiterpene-umbelliferone ethers 1207  
 Shift correlation,  $^1\text{H}$ - $^{13}\text{C}$  597, 739  
 Silicon-29 NMR 561  
 Silicon—O—Si bond angle 561  
 Silver(I) complexes 943  
 Silver ions 943  
 Silanes 1125  
 Silylenol ether functionalization 587  
 Silylphosphanes 713  
 S-Isomers 1  
 Small angle X-ray scattering 1269  
 Sodium amalgam reduction 113  
 Solid-liquid interface 147  
 Solid state, hierarchic order 551  
 Solid state NMR 561  
 Solvated electron 313  
 Solvent acidity 1313  
 Solvent effect 35, 155, 415, 647, 1143, 1313, 1385  
 Solvent induced CD 455  
 Solvent shifts 613  
 Spectrophotometric titration 121, 873  
 Spiro 79, 605  
 Spiro[2.4]heptan-4-ones 605  
 Stability constants 283, 993, 1293  
 Stereochemistry 1, 79, 93, 179, 223, 243, 455, 785, 837, 1059, 1113, 1159, 1199, 1207, 1237, 1299, 1429, 1453  
 Stereoselective epoxidation of vitamin D<sub>3</sub> 1453  
 Steric hindrance 79  
 Stopped flow experiment 243  
 Streptopolymethine 21  
 Substituent effects 187  
 Sucrose methacrylate gels 1329  
 Sulfate, K-Co, X-ray 165  
 Sulfide 1133  
 Sulfimides 1199  
 Sulfur, Cu—Ti phase diagram 1397  
 Surface phenomena 551  
*Syn*- und *anti*- $\omega$ -Chlorocamphene 509  
 Tantalum, Ba<sub>4</sub>CoTa<sub>10</sub>O<sub>30</sub> 1151  
 Tantalum, Zn, O 15  
 Tautomeric equilibria 1345  
 Tautomerism 101, 179  
 Tellurite glasses 987  
 Telluriumdioxide-WO<sub>3</sub> system 987  
 TEMO 1  
 Terpenoids 477, 509, 597, 1107, 1207  
 Tetrafluoro-2,4-dimethoxy-diazadi-phosphetidines 899  
 5,6,7,8-Tetrahydroquinolines, yields 1219  
 [ $^2\text{H}$ ]-Tetramethylsilane 519  
 Tetrapeptide, cyclic 779  
 Thallium(I) complexes 1293  
 Thallium—Cu containing chalcogenides 1397  
 Thallium thioannate(IV), crystal structure 1133  
 Thallium-tin 1133  
 Theophylline 383  
 Thermal decomposition 961  
 Thermal stabilities 1397  
 Thermodynamics 45, 135, 141  
 Thermolysin 423  
 Thermo-oxidative degradation 349  
 Thia 769  
 4-(2-Thienyl)quinazoline 1279  
 Thioacids 1373  
 Thiocyanates 691  
 Tin-thallium 1133  
 T-Isomers 1  
 Topological effect 1  
 Topotactic thermal degradation 975  
 Torsional isomeric 223  
 Total  $\pi$ -electron energies 1  
 Triacetylcellulose 1113, 1429  
 2,4,5-Tribenzoyloxybenzaldehyde 113  
 Tricarbonylchromium complexes 223, 1429  
 Trichloromethyl-amino- $n$ -ethylene-malononitrile 573  
 Tricyclo[7.3.1.0<sup>2,7</sup>]tridecanes 327, 793, 809, 825  
 Tricyclo[7.3.1.0<sup>2,7</sup>]tridecane, crystal structure 739  
 Tridentate ligands 1353  
 Trifluoroacetates, complexes 533  
 2,4,5-Trihydroxyphenylpropylamine 113  
 4',4',5'-Trimethyl-dihydrofurano-coumarins 327  
 Trimethylsilylenol ether 587  
 Tungsten, binuclear biscarbene complexes, Au 1159  
 Tungstentrioxide-TeO<sub>2</sub> system 987  
 Two-phase buffers 705



- Umbelliferone-sesquiterpene ethers 1207  
 $\alpha,\beta$ -Unsaturated Nitriles 1413  
UV-Vis 21, 57, 79, 179, 853, 927, 1071, 1165, 1421  
Vibrational spectra, s. IR  
Vinylazides 523  
Vitamin D<sub>3</sub>, epoxidation 1453  
Void system 1269  
Volatile leaf oil composition 1107  
*Wittig* reaction 765  
Xanthate 927  
X-ray, s. Crystal structure  
Yeast plasmid cloning vector 1229  
Ylides 231  
Ytterbium(III), extraction of 289, 683  
Yttriumdisilicate 561  
Zinc(II) complexes 141, 261, 401, 731, 921  
Zinc sulfide, Mn activated 1393  
Zinc, Ta, O 15  
Zirconium(IV) complexes 927